

In the specification:

Please replace the first paragraph on page 1, after title, to read as follows:

The present invention relates to the combined utilization of optical photonic data network switch fabrics (OSF), and data packet-based electrical switch fabric networks (ESF), being more particularly concerned with eliminating some of the operational inefficiencies in current data networks wherein multiple and separate control mechanisms and protocols are used for operating ESF and OSF nodes -- the invention combining packet-based and photonic networks by providing a hardware architecture with appropriate software algorithms that transform current ESF and OSF network designs and operation from multiple control layers to a one-layer common software control plane that can be represented as an integrated node solution. This novel solution also enables financial benefits through more efficient use of optical path capability for network operators through the use of this invention.

Page 6, first full paragraph, replace as follows:

In the prior art, traffic in an all-optical environment of an OSF would flow from optical port to optical port without inspections of the contents of the traffic. This is called the before-mentioned photonic switching. Similarly, with ESF nodes, traffic would flow from electrical port to electrical port, though this traffic is inspected. Furthermore, traffic could enter the photonic network from an electrical port by use of a conversion element and vice versa. These traffic flows are fairly standard applications even with the present invention.

Page 8, second paragraph, replace as follows:

As earlier described, simply combining electrical and optical switch fabrics will not produce a common node. Electrical and optical switches have similar architectures except that the nature of I/O cards and the switch fabrics are different. A control processor exists for the management of the entire system. An ESF is responsible for moving data packets from one I/O card to another I/O card. I/O cards are also responsible for converting optical signals to

electrical signals and then processing the contents of the data. The packet links are optical links that connect one switching node to another switching node. In the case of an optical switch, the I/O cards may be purely optical and move light from one port to another; or they may convert light into electrical signals for performance measurement and error handling capability, both of which can not be done in a purely optical domain.

Page 11, second paragraph, please replace as follows:

Furthermore, by combining devices of two different types (ESF and OSF) is not sufficient actually to produce a common node as used by standard networking algorithms. While a box containing two capabilities (electrical and optical) can be "bolted" together as shown in Figure 1, the current algorithms deployed in such networks today would not be able to treat this type of device as a single unified or integrated node, and thus the aforementioned efficiencies could not be garnered. The example earlier described and more fully later discussed, particularly in connection with the embodiment of Figure 9, whereby data traffic is sent to the ESF and then back out to the OSF, (as schematically shown in the Figure 4 as Flow A, would not be allowed in SPF since the shortest path would be Flow B. The top node thus would be extraneous.

Page 21, last paragraph, and continuing on top of page 22, please replace as follows:

Otherwise the card architecture shows elements of both ESF and OSF components. The ESF-related components comprise the subsystem elements that process packets, such as in the ingress and egress packet processing blocks. These functions may include MPLS label lookup and label swapping functions as are well known. OSF related functions include the optical transponder as an example. The SONET framing capability is a function that fits into either domain.

Page 22, second paragraph, please replace as follows: